

General

Guideline Title

Treatment of stage I and II non-small cell lung cancer: diagnosis and management of lung cancer, 3rd ed: American College of Chest Physicians evidence-based clinical practice guidelines.

Bibliographic Source(s)

Howington JA, Blum MG, Chang AC, Balekian AA, Murthy SC. Treatment of stage I and II non-small cell lung cancer: diagnosis and management of lung cancer, 3rd ed: American College of Chest Physicians evidence-based clinical practice guidelines. Chest. 2013 May;143(5 Suppl):e278S-313S. [248 references] [PubMed](#)

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Scott WJ, Howington J, Feigenberg S, Movsas B, Pisters K, American College of Chest Physicians. Treatment of non-small cell lung cancer stage I and stage II: ACCP evidence-based clinical practice guidelines (2nd edition). Chest. 2007 Sep;132(3 Suppl):234S-42S.

Recommendations

Major Recommendations

The grades of recommendation (1A–2C) and the approach to rating the quality of evidence are defined at the end of the "Major Recommendations" field.

General Approach to Stage I and II Non-small Cell Lung Cancer (NSCLC)

For patients with clinical stage I and II NSCLC and no medical contraindications to operative intervention, surgical resection is recommended (Grade 1B).

For patients with clinical stage I and II NSCLC, it is suggested that they be evaluated by a thoracic surgical oncologist or a multidisciplinary team even if the patients are considered for nonsurgical therapies such as percutaneous ablation or stereotactic body radiation therapy (Grade 2C).

Remark: At a minimum, we suggest that multidisciplinary teams have representatives from pulmonary medicine, thoracic surgery, medical oncology, radiation oncology, radiology, and pathology.

Surgical Expertise and Volume

For patients with clinical stage I or II NSCLC and who are medically fit, it is recommended that they be treated by a board certified thoracic surgeon with a focus on lung cancer (Grade 1B).

Remark: Ideally general thoracic surgical procedures would constitute >75% of the thoracic surgeon's clinical practice, and involve an average of ≥ 4 anatomic surgical resections performed per month at the center to maintain the experience and smooth function of the care teams.

Lobectomy: Surgical Issues

Minimally Invasive vs Open Surgical Resection

For patients with clinical stage I NSCLC, a minimally invasive approach such as video-assisted thoracic surgery (VATS) (thoracoscopy) is preferred over a thoracotomy for anatomic pulmonary resection and is suggested in experienced centers (Grade 2C).

Mediastinal Lymph Node Dissection vs Systematic Sampling

Safety of Lymphadenectomy for Stage I/II NSCLC

For patients with clinical stage I and II NSCLC, systematic mediastinal lymph node sampling or dissection at the time of anatomic resection is recommended for accurate pathologic staging (Grade 1B).

For patients with clinical stage I NSCLC undergoing anatomic resection who have undergone systematic hilar and mediastinal lymph node staging showing intraoperative N0 status, the addition of a mediastinal lymph node dissection does not provide a survival benefit and is not suggested (Grade 2A).

For patients with clinical stage II NSCLC undergoing anatomic resection, mediastinal lymph node dissection may provide additional survival benefit over mediastinal lymph node sampling and is suggested (Grade 2B).

Bronchoplastic Lung Resection vs Pneumonectomy

For patients with clinical stage I or II central NSCLC in whom a complete resection can be achieved, a sleeve or bronchoplastic resection is suggested over a pneumonectomy (Grade 2C).

Sublobar Resection

Lobar vs Elective Sublobar Resection for Patients with Stage cI in General

For patients with clinical stage I and II NSCLC who are medically fit for surgical resection, a lobectomy rather than sublobar resection is recommended (Grade 1B).

Brachytherapy Mesh

For patients with clinical stage I NSCLC who may tolerate operative intervention but not a lobar resection due to decreased pulmonary function or comorbid disease, sublobar resection is recommended over nonsurgical therapy (Grade 1B).

Remark: Regardless of whether patients undergo wedge or segmentectomy, adequate margins should be achieved.

Remark: Sublobar resection should involve an anatomic segmentectomy whenever possible.

During sublobar resection of solid tumors in compromised patients, it is recommended that margins greater than the maximal tumor diameter for lesions less than 2 cm should be achieved; for tumors larger than 2 cm at least 2 cm gross margins should be sought to minimize the likelihood of a positive margin and/or local recurrence (Grade 1C).

Remark: The data regarding the appropriate gross margin necessary to achieve a pathologically negative margin or minimize local recurrence in larger tumors (>2 cm) is less well established. It may be that larger margins for larger tumors are required.

Remark: In patients undergoing resection of solid stage cI NSCLC in whom the ability to achieve an adequate margin is compromised, the addition of brachytherapy mesh to sublobar resection may improve local control.

Sublobar Resection and Lobectomy in Elderly Patients

In patients with major increased risk of perioperative mortality or competing causes of death (due to age related or other co-morbidities), an anatomic sublobar resection (segmentectomy) over a lobectomy is suggested (Grade 2C).

Ground-glass Opacities (GGO)

For patients with a clinical stage I predominantly GGO lesion ≤ 2 cm, a sublobar resection with negative margins is suggested over lobectomy

(Grade 2C).

Nonsurgical Treatment Approaches to Stage I NSCLC

Radiofrequency Ablation vs Surgical Resection

For patients with clinical stage I NSCLC who cannot tolerate a lobectomy or segmentectomy, stereotactic body radiation therapy (SBRT) and surgical wedge resection are suggested over no therapy (Grade 2C).

Remark: Surgical resection has the potential benefit of definitive histologic analysis (e.g., adenocarcinoma subtype) and pathologic nodal information. In compromised patients for whom such information would not change management SBRT is a preferred option. Also, SBRT is favored in patients for whom an adequate margin is unlikely with a surgical wedge resection.

Remark: Radiofrequency ablation (RFA) may also be considered for peripheral tumors <3 cm in inoperable patients.

Postoperative (Adjuvant) Therapy

Adjuvant Chemotherapy for Resected Stage I/II NSCLC

For patients with completely resected pathologic stage IA, B NSCLC, it is recommended that postoperative chemotherapy not be used (outside of a clinical trial) (Grade 1B).

For patients with completely resected pathologic stage II (N1) NSCLC and good performance status, postoperative platinum-based chemotherapy is recommended (Grade 1A).

Remark: No clear recommendation is possible regarding adjuvant chemotherapy for larger tumors without lymph node involvement.

Adjuvant Radiation Therapy/Postoperative Radiation Therapy for Resected Early Stage Lung Cancer

For patients with completely resected pathologic stage I NSCLC, it is recommended that postoperative radiation therapy should not be used (Grade 1A).

For patients with completely resected pathologic stage II NSCLC, it is suggested that postoperative radiation therapy should not be used (Grade 2A).

For patients with stage I and II NSCLC and a positive bronchial margin (R1 resection), postoperative radiation therapy is suggested (Grade 2C).

Definitions:

Strength of the Recommendations Grading System

Grade of Recommendation	Benefit vs. Risk and Burdens	Methodologic Quality of Supporting Evidence	Implications
Strong recommendation, high-quality evidence, Grade 1A	Benefits clearly outweigh risk and burdens or vice versa	Consistent evidence from randomized controlled trials (RCTs) without important limitations or exceptionally strong evidence from observational studies	Recommendation can apply to most patients in most circumstances. Further research is very unlikely to change confidence in the estimate of effect
Strong recommendation, moderate-quality evidence, Grade 1B	Benefits clearly outweigh risk and burdens or vice versa	Evidence from RCTs with important limitations (inconsistent results, methodologic flaws, indirect or imprecise), or very strong evidence from observational studies	Recommendation can apply to most patients in most circumstances. Higher quality research may well have an important impact on confidence in the estimate of effect and may change the estimate
Strong recommendation, low- or very-low-quality evidence, Grade 1C	Benefits clearly outweigh risk and burdens or vice versa	Evidence for at least one critical outcome from observational studies, case series, or from RCTs with serious flaws or indirect evidence	Recommendation can apply to most patients in many circumstances. Higher-quality research is likely to have an important impact on confidence in the estimate of effect and may well change the estimate
Weak recommendation, high-quality	Benefits closely balanced with risks and burden	Consistent evidence from RCTs without important limitations or exceptionally strong evidence from	The best action may differ depending on circumstances or patient's or societal values. Further research is very unlikely to change

evidence, Grade 2A Recommendation	Benefit vs. Risk and Burdens	Methodologic Quality of Supporting Evidence	confidence in the estimate of effect
Weak recommendation, moderate-quality evidence, Grade 2B	Benefits closely balanced with risks and burden	Evidence from RCTs with important limitations (inconsistent results, methodologic flaws, indirect or imprecise) or very strong evidence from observational studies	Best action may differ depending on circumstances or patient's or societal values. Higher-quality research may well have an important impact on confidence in the estimate of effect and may change the estimate
Weak recommendation, low- or very-low-quality evidence, Grade 2C	Uncertainty in the estimates of benefits, risks, and burden; benefits, risk, and burden may be closely balanced	Evidence for at least one critical outcome from observational studies, case series, or RCTs, with serious flaws or indirect evidence	Other alternatives may be equally reasonable. Higher-quality research is likely to have an important impact on confidence in the estimate of effect and may well change the estimate

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Stage I and II non-small cell lung cancer (NSCLC)

Guideline Category

Management

Treatment

Clinical Specialty

Family Practice

Oncology

Pulmonary Medicine

Radiation Oncology

Thoracic Surgery

Intended Users

Advanced Practice Nurses

Allied Health Personnel

Health Care Providers

Nurses

Patients

Physicians

Psychologists/Non-physician Behavioral Health Clinicians

Social Workers

Guideline Objective(s)

- To inform the clinical decisions that must be jointly made by physicians and patients in developing diagnostic, treatment, and management plans so that they can enhance the benefits and reduce the harms associated with various options
- To update previous recommendations on the treatment of stages I and II non-small cell lung cancer (NSCLC)

Target Population

Patients with stage I and II non-small cell lung cancer (NSCLC)

Interventions and Practices Considered

1. Surgical resection (conventional, sleeve, bronchoplastic, wedge)
 - Lobectomy
 - Sublobar resection (segmentectomy)
2. Evaluation by thoracic surgical oncologist or multidisciplinary team
3. Treatment by board certified thoracic surgeon
4. Minimally invasive approach, e.g., video-assisted thoracic surgery (VATS)
5. Thoracoscopy
6. Systematic mediastinal lymph node sampling or dissection
7. Pneumonectomy
8. Stereotactic body radiation therapy (SBRT)
9. Postoperative platinum-based adjuvant chemotherapy
10. Postoperative radiation therapy

Major Outcomes Considered

- Improved perioperative surgical outcomes
- Better long-term survival

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

To update previous recommendations on the treatment of stages I and II non-small cell lung cancer (NSCLC), a series of population, intervention, comparator, outcome (PICO) questions (see Table S1 in the supporting data [see the "Availability of Companion Documents" field]) were developed and used to structure a literature search of computerized databases (MEDLINE, COCHRANE, Google Scholar, and EMBASE in some cases). The search included papers published through the end of 2011, overlapping with the previous American College of Chest Physicians (ACCP) lung cancer guidelines. Search terms were chosen according to the questions being addressed (details of the search strategy and results are available on request). Only papers published in English were included in the reviews. Articles were selected if they reported on the outcomes in question in patients with stage I or II NSCLC and included randomized controlled trials (RCTs) as well as cohort and outcomes studies.

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Not Given)

Rating Scheme for the Strength of the Evidence

Not stated

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Assessment of Study Quality

Systematic reviews and meta-analyses were assessed using Documentation and Appraisal Review Tool (DART) (R. L. Diekemper; B. K. Ireland, MD; and L. R. Merz, PhD, MPH, DART, unpublished data, 2012), which was developed as an improved alternative to the existing tools for use in a clinical setting. However, this tool has been adopted for use in American College of Chest Physicians (ACCP) guidelines and consensus statements since 2011.

Quality was assessed for each study as well as for the body of relevant evidence. Based on the population, intervention, comparator, and outcome (PICO) questions and volume of available literature, multiple study designs were included in the systematic reviews of the literature. Randomized controlled trials (RCTs) primarily indicate benefits, but whenever observational studies met inclusion criteria they were often helpful in identifying harms. Observational studies were also examined when RCTs were not available to answer a particular PICO question. Allowing for multiple study designs resulted in the need for multiple quality assessment tools. Tools were chosen for assessing RCTs, observational studies, and diagnostic studies. The quality assessment tool for RCTs (R. L. Diekemper, B. K. Ireland, and L. R. Merz, unpublished data, 2012) was used for assessing the quality of RCTs, and a tool developed by the committee of the ninth edition of the Antithrombotics Guidelines was used for assessing the quality of observational studies. Diagnostic studies were assessed using the Quality Assessment Tool for Diagnostic Accuracy Studies (QUADAS).

Meta-analyses

If a recently published good-quality meta-analysis was available, then it was used to inform the recommendations. When a good-quality meta-analysis was not available, guideline authors were encouraged to perform their own meta-analyses. Meta-analyses were performed when the data were fairly homogeneous. If a study was deemed poor quality, then it was not included in the pooled analysis. Heterogeneity of the pooled results was assessed using a χ^2 test and Higgins I^2 , and a forest plot was examined for consistency of the results. The random effects model was chosen a priori as the appropriate model for pooling the data because it accounts for heterogeneity among the included studies. Results from the meta-analyses are available in the supplementary materials that can be downloaded from the Journal website under the corresponding article in the table of contents.

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Panel Composition and Responsibilities

A call for applications to serve on the 3rd edition of the American College of Chest Physicians (ACCP) Lung Cancer Guidelines (LC III) panel was put forth to the ACCP membership, to past panelists, and to other organizations that have previously endorsed earlier editions of these guidelines or appointed representatives to serve on those panels. Guiding the team was the LC III Executive Committee, composed of a Panel Chair, Vice Chair, Liaison to the Guidelines Oversight Committee (GOC), and two staff members, one serving as an adviser and the other as the lead methodologist. The GOC appointed the Liaison and the Chair, who was required to be free of conflicts of interest (COI). This Executive Committee provided general oversight and guidance; multiple reviews of research questions, article outlines, manuscripts, evidence tables, and other supporting documents; and facilitation of the final conference discussions and voting. As the scope was defined, content experts in each major area were identified to serve as topic editors and nominated by the Panel Chair to be advanced to the GOC for the requisite qualifications and COI review and approval process. These topic editors organized their research and writing teams, oversaw the work of the individual members, edited separate contributions into synthesized manuscripts, presented evidence at the final conference, and managed any of their committee members who were approved with management stipulations relevant to their COIs.

Each topic editor was initially charged with proposing individuals to support their topic committees with expertise in the content area and/or methodology. With the Chair's approval, these individuals were nominated for GOC reviews for COI and expertise. In some cases, GOC staff helped to locate additional methodologic support when it was determined to be necessary for various article committees. This resulted in an international panel of >100 multidisciplinary experts across 24 articles representing the fields of pulmonary medicine, critical care medicine, thoracic surgery, medical and radiation oncology, pathology, integrative medicine, primary care, health-care research, guidelines methodology, and epidemiology. Nineteen international organizations that are also dedicated to advancing research and practice in the area of lung cancer were invited to appoint representatives to this guideline project as adjunct participants. These individuals, unless already approved panelists, were not considered full voting members of the panel, since they had not been through the same ACCP COI review, but were included at the final conference, participated fully in the discussions, and provided external review and feedback on the manuscripts and supporting documentation.

Formulating the Recommendations

In most cases the topic editors, along with the other completely non-conflicted members of the article committee, formulated the recommendations. The summarized evidence tables and profiles (where profiles existed) provided the foundation for the recommendations. In formulating the recommendations, panelists considered not only the body of evidence but also the balance between the benefits and harms and considerations of other factors, such as cost or resource availability considerations and patient values and preferences, which might vary widely for some recommendations. These additional considerations are described in a Remarks section, which appears just below the relevant recommendation in the publication, each time the recommendation appears.

Grading the Recommendations

Recommendations that are strong must be differentiated from those that are weak or weaker. Thus, the ACCP Grading System was used (see the "Rating Scheme for the Strength of the Recommendations" field), and the wording of the recommendations is explicit. This grading system has been used since 2005 and is based on two dimensions: the balance of benefits to harms and the quality of the evidence base. If the benefits clearly outweigh the harms or the harms clearly outweigh the benefits, the strength of the recommendation is considered strong and graded as a 1. In most cases, when there is strong confidence that the benefits outweigh the harms, most patients would choose the intervention endorsed in that recommendation. However, when the tradeoffs between desirable and undesirable consequences are not as clear, variability in patient preferences and values often becomes germane to the decision-making conversation.

Weak recommendations are those for which the benefits and harms are more equally balanced, and thus a clear choice is not as obvious; these are graded with a 2. Strong recommendations are phrased, "the panel recommends," whereas weak recommendations are phrased "the panel suggests." Accompanying these indications of the strength of a recommendation is a letter score (A, B, or C) representing the grading of the body of relevant literature.

In grading the quality of the evidence, RCTs start with a high score but might be downgraded to moderate or even low based on the following criteria: limitations in the study design or conduct of the trial, imprecision, indirectness relative to the specifics of the PICO question, inconsistency in the results, and risk of reporting bias. Observational studies, on the other hand, start off as low-level evidence but can be upgraded to moderate or even high if exceptionally large and consistent treatment effects increase confidence in the findings, especially if there is a strong dose-response gradient.

The final grades are combinations reflecting the strength of the recommendation and the quality of the evidence. Strong recommendations with high quality evidence, grade of 1A, are less common than in past editions of these guidelines, since the evidence is assessed with greater rigor for most topics, and few studies without important limitations are available.

However, recommendations that do attain this score are those for which the panel could state with confidence that new studies would be unlikely to change the direction of the effect. These recommendations apply to most patients in most circumstances. But as the grades decline, patient values and preferences likely would play an increasingly greater role in determining the best treatments or interventions for each patient.

The Final Conference

As the evidence reviews were completed and the tables and profiles prepared, the manuscripts and recommendations were drafted. Members of the article committees convened by phone or e-mail to discuss the evidence and work on drafting and grading the recommendations. These discussions generally resulted in agreement on both the quality of the evidence and strength of the recommendations.

The manuscripts and supporting tables were then reviewed by members of the Executive Committee and, after several iterations, the revised versions were shared among all panelists and the representatives of invited organizations in advance of the conference. The other panelists and representatives were asked not only to provide feedback but also to review the recommendations to identify any controversies. A recommendation was deemed to be controversial if at least one person disagreed with the wording or the grading, if there was controversy in practice, if there were wide variations in practice, or if at least one person asked that it be discussed among the broader panel and association representatives. These identified controversies composed the main agenda for the conference.

See the "Methodology for Development of Guidelines for Lung Cancer" (see the "Availability of Companion Document" field) for more information.

Rating Scheme for the Strength of the Recommendations

Strength of the Recommendations Grading System

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Strong recommendation, high-quality evidence, Grade 1A	Benefits clearly outweigh risk and burdens or vice versa	Consistent evidence from randomized controlled trials (RCTs) without important limitations or exceptionally strong evidence from observational studies	Recommendation can apply to most patients in most circumstances. Further research is very unlikely to change confidence in the estimate of effect
Strong recommendation, moderate-quality evidence, Grade 1B	Benefits clearly outweigh risk and burdens or vice versa	Evidence from RCTs with important limitations (inconsistent results, methodologic flaws, indirect or imprecise), or very strong evidence from observational studies	Recommendation can apply to most patients in most circumstances. Higher quality research may well have an important impact on confidence in the estimate of effect and may change the estimate
Strong recommendation, low- or very-low-quality evidence, Grade 1C	Benefits clearly outweigh risk and burdens or vice versa	Evidence for at least one critical outcome from observational studies, case series, or from RCTs with serious flaws or indirect evidence	Recommendation can apply to most patients in many circumstances. Higher-quality research is likely to have an important impact on confidence in the estimate of effect and may well change the estimate
Weak recommendation, high-quality evidence, Grade 2A	Benefits closely balanced with risks and burden	Consistent evidence from RCTs without important limitations or exceptionally strong evidence from observational studies	The best action may differ depending on circumstances or patient's or societal values. Further research is very unlikely to change confidence in the estimate of effect
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Weak recommendation, low- or very-low-quality evidence, Grade 2C	Uncertainty in the estimates of benefits, risks, and burden; benefits, risk, and burden may be closely balanced	Evidence for at least one critical outcome from observational studies, case series, or RCTs, with serious flaws or indirect evidence	Other alternatives may be equally reasonable. Higher-quality research is likely to have an important impact on confidence in the estimate of effect and may well change the estimate

Cost Analysis

American College of Chest Physicians (ACCP) guidelines include consideration of resources in recommendations under selected circumstances. If it is likely that resource considerations would impact the direction or strength of a recommendation, a search for cost-effectiveness studies may have been conducted. Most recommendations in these guidelines do not include a full assessment of resource considerations. However, they can be adapted to middle- and low-income countries using the ADAPTE strategies.

Method of Guideline Validation

External Peer Review

Internal Peer Review

Description of Method of Guideline Validation

Internal and External Peer Review

Once Executive Committee approval was received, the articles were submitted to American College of Chest Physicians (ACCP) staff for several layers of review. All reviewers were required to undergo a full conflict of interest (COI) appraisal before being approved. In the first round of reviews, the Thoracic Oncology NetWork reviewed the content of the manuscripts and the members of the Guidelines Oversight Committee (GOC) assessed the manuscripts for adherence to the methodology and conformance with the evidence. The ACCP President also appointed members of the Board of Regents to evaluate the guidelines in depth. All comments were collated into spreadsheets to ensure that they were appropriately answered. GOC and board reviewers discussed each comment and determined which should be mandatory for the authors to amend and which were provided as suggestions for improvement. All reviews and comments were anonymous, and authors were required to respond to all mandatory issues either by revising the manuscripts or providing written justification explaining why they did not agree with the reviewers' comments.

The revised manuscripts were submitted for round II review, simultaneously with the Journal peer review. Once the GOC and board reviewers approved the manuscripts, the ACCP President, President Elect, President Elect Designee, and Immediate Past President reviewed the guidelines. Approval was granted pending confirmation from the Board of Regents, before submission to the journal for final review by the Journal Editor. In addition to this extensive review process, which included nearly 30 individual reviewers from the ACCP leadership, external organizations were provided with opportunities to provide feedback before, during, and just after the conference. This final version was submitted for consideration for endorsement to all of the invited organizations, whether or not they sent representatives to the conference. However, once the guidelines were approved by the ACCP Board of Regents, no further changes were accepted. Organizations that provided endorsements are listed in each article.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate treatment for patients with stage I and II non-small cell lung cancer (NSCLC)

Potential Harms

- Complications of surgical treatments

- Toxicity of chemotherapy

Contraindications

Contraindications

Although the presence of hilar lymphadenopathy (N1 stations) is considered by some to be a contraindication for sleeve lobectomy, bronchoplastic resection and reconstruction can be accomplished in this setting without any appreciable increased risk for local recurrence, particularly if right pneumonectomy, which alone has been associated with worse perioperative outcomes, is being considered.

Qualifying Statements

Qualifying Statements

- American College of Chest Physicians (ACCP) guidelines are intended for general information only, are not medical advice, and do not replace professional medical care and physician advice, which always should be sought for any medical condition. The complete disclaimer for this guideline can be accessed at the [CHEST Web site](#) .
- Although the ACCP is moving toward the production of evidence profiles for all guideline recommendations, there were many recommendations for which profiles were not developed, mostly because of resource constraints. When possible, methodologists created evidence profiles, and all panelists were educated on how to read and interpret them. The population, intervention, comparator, and outcome (PICO)-based systematic literature review process was followed for most recommendations, but there were some that could have benefited from meta-analyses.
- One limitation of all guidelines today is that they are not able to adequately address complex patients with multiple morbidities. This is largely because these patients are generally excluded from clinical trials and are often not included in observational studies. Since guidelines are reliant on evidence published in the peer-reviewed literature, the scientific foundation impedes the process of providing good guidance for these patients and is a limitation in these guidelines. Therefore, the ACCP encourages funding agencies to ensure that topics with limited evidence are addressed in future research.

Implementation of the Guideline

Description of Implementation Strategy

Dissemination and Implementation

These guidelines are widely disseminated through the *CHEST* journal publication, National Guideline Clearinghouse, and Guidelines International Network library. Additional clinical resources will soon be available to users of CHEST Evidence, an upcoming tool for searching the content of American College of Chest Physicians (ACCP) guidelines.

As the expanding research into diagnostic techniques and treatment options continues to evolve, the guidelines must be updated and kept current. This edition of the ACCP Lung Cancer Guidelines will be the last to be published as a complete collection, as the ACCP is now embarking on a new living guidelines model (LGM) for revising existing recommendations and developing new recommendations as the literature evolves. This will include a continual assessment of the currency of these recommendations relevant to new research studies as they are published. The review cycle for the ACCP Lung Cancer Guidelines will begin 1 year after publication unless the content experts who monitor the literature bring a recommendation or set of related recommendations to the attention of the Guideline oversight Committee (GOC), suggesting that those recommendations are in need of updating sooner. The new LGM will permit a more nimble approach to guideline development but also requires a point-of-care accessible vehicle, CHEST Evidence, for the users to readily search for the most current version. These features will be described in greater detail in upcoming publications. As a step in this direction, these guidelines will be published primarily online with a printed version of the Executive Summary, containing all of the recommendations, the introduction, and this article on methodology. All narratives for each article with their supporting tables, figures, and algorithms will be available online at journal.publications.chestnet.org .

Implementation Tools

Mobile Device Resources

Patient Resources

Quick Reference Guides/Physician Guides

Resources

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

Howington JA, Blum MG, Chang AC, Balekian AA, Murthy SC. Treatment of stage I and II non-small cell lung cancer: diagnosis and management of lung cancer, 3rd ed: American College of Chest Physicians evidence-based clinical practice guidelines. Chest. 2013 May;143(5 Suppl):e278S-313S. [248 references] [PubMed](#)

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2003 Jan (revised 2013 May)

Guideline Developer(s)

American College of Chest Physicians - Medical Specialty Society

Source(s) of Funding

- The development of this guideline was supported primarily by the American College of Chest Physicians (ACCP). The lung cancer guidelines conference was supported in part by a grant from the Lung Cancer Research Foundation. The publication and dissemination of the guidelines was supported in part by a 2009 independent educational grant from Boehringer Ingelheim Pharmaceuticals, Inc.
- Role of sponsors: The ACCP was solely responsible for the development of these guidelines. The remaining supporters played no role in the development process. External supporting organizations cannot recommend panelists or topics, nor are they allowed prepublication access to the manuscripts and recommendations. Further details on the Conflict of Interest (COI) Policy are available online at <http://chestnet.org> .
- See the methodology companion (see the "Availability of Companion Documents" field) for a complete discussion of the source of funding for this guideline.

Guideline Committee

American College of Chest Physicians (ACCP) Expert Panel on Lung Cancer Guidelines

Composition of Group That Authored the Guideline

Authors: John A. Howington, MD, FCCP; Matthew G. Blum, MD, FCCP; Andrew C. Chang, MD, FCCP; Alex A. Balekian, MD, MSHS; Sudish C. Murthy, MD, PhD, FCCP

Financial Disclosures/Conflicts of Interest

- Conflicts of Interest (COI) grids reflecting the conflicts of interest that were current as of the date of the conference and voting are posted in the online supplementary materials.
- Financial/nonfinancial disclosures: The authors have reported to *CHEST* that no potential conflicts of interest exist with any companies/organizations whose products or services may be discussed in this article.
- See the methodology companion (see the "Availability of Companion Documents" field) for a complete discussion of the conflict of interest procedures and requirements for the guideline panel.

Guideline Endorser(s)

American Association for Bronchology and Interventional Pulmonology - Medical Specialty Society

European Society of Thoracic Surgeons - Professional Association

Oncology Nursing Society - Professional Association

Society of Thoracic Surgeons - Medical Specialty Society

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Scott WJ, Howington J, Feigenberg S, Movsas B, Pisters K, American College of Chest Physicians. Treatment of non-small cell lung cancer stage I and stage II: ACCP evidence-based clinical practice guidelines (2nd edition). *Chest*. 2007 Sep;132(3 Suppl):234S-42S.

Guideline Availability

Electronic copies: Available to subscribers of [Chest - The Cardiopulmonary and Critical Care Journal](#) . Also available to Chest subscribers through the [Chest app](#) for iPhone and iPad.

Print copies: Available from the American College of Chest Physicians, Products and Registration Division, 3300 Dundee Road, Northbrook IL

Availability of Companion Documents

The following are available:

- Treatment of stage I and II non-small cell lung cancer: diagnosis and management of lung cancer, 3rd ed: American College of Chest Physicians evidence-based clinical practice guidelines. Supporting data. Electronic copies: Available to subscribers of [Chest - The Cardiopulmonary and Critical Care Journal](#) .
- Detterbeck FC, Zelman Lewis S, Diekemper R, Addrizzo-Harris D, Alberts MW. Diagnosis and management of lung cancer, 3rd ed: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines. Executive summary. Chest 2013 May;143(5 Suppl):7S-37S. Electronic copies: Available from the [Chest - The Cardiopulmonary and Critical Care Journal Web site](#) .
- Alberts WM. Introduction to the third edition: diagnosis and management of lung cancer, 3rd ed: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines. Chest 2013 May;143(5 Suppl):38S-40S. Electronic copies: Available from the [Chest - The Cardiopulmonary and Critical Care Journal Web site](#) .
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Print copies: Available from the American College of Chest Physicians, Products and Registration Division, 3300 Dundee Road, Northbrook IL 60062-2348.

The following is also available:

- Highlights of the ACCP diagnosis and management of lung cancer guidelines, 3rd ed. Podcast. Available from the [Chest - The Cardiopulmonary and Critical Care Journal Web site](#) .

A lung cancer staging calculator is available from the [Staging Lung Cancer Web site](#) .

Patient Resources

The following are available:

- Lung cancer: understanding the diagnosis. Northbrook (IL): American College of Chest Physicians; 2010. 7 p. Electronic copies: Available in Portable Document Format (PDF) from the [OneBreath.org Web site](#) .
- Understanding non-small cell lung cancer. A guide for the patient. Northbrook (IL): American College of Chest Physicians; 2010. 13 p. Electronic copies: Available in PDF from the [OneBreath.org Web site](#) .

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC Status

This NGC summary was completed by ECRI on July 22, 2003. The information was verified by the guideline developer on August 18, 2003. The updated information was verified by the guideline developer on December 21, 2007. This NGC summary was updated by ECRI Institute on August 21, 2013.

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